

and acetic acid was also advised. A diaphoretic at bed-time of pulv. ipecac. et opii, soothed the patient to rest, and procured a relaxation of the exhalent vessels on the surface, which moderated the febrile action. The mouth and fauces were directed to be washed or gargled with the sol. sulph. aluminis, and a few drops of aromat. sulph. acid. On the first symptoms indicating the approach of coma, a blister was applied to the head or the nape of the neck, extending along the spine, or both; the lower extremities immersed in warm water, and the pulv. antim. c. phus. calcis, or the tart. antim. combined with nit. potassæ, given internally. Enemata were of signal service in evacuating the lower bowels and moderating the febrile action. Some practitioners, led away by the theories of the older authors, and parents by prejudices ascribable perhaps to the same source, in some cases imagined the disease to assume a putrid tendency, and exhibited during the violence of the febrile excitement, wine, cort. cinchoæ, and yeast. To say the least of this practice, it was prescribing for a phantom, and exhibiting a poison.

JOHN BURNS, C. M. Regius Professor of Surgery in the University of Glasgow, notwithstanding all his practical acumen and extensive experience, both in his public lectures and in his writings, has inculcated the idea that scarlatina is a contagious disease, (vide Principles of Midwifery, page 542.) I have seen it prevail extensively in Europe in the most crowded populations, and I have seen it here, and must confess I never saw any thing to warrant such an opinion. The numbers which have been cut off in this epidemic must be considerable, but as no records are kept, we can give no account of the amount. Recoveries were often lingering; in many cases the sulphate of quinine acted as a valuable tonic, in restoring to an enfeebled frame the wonted vigour of health.

Pittsburgh, 1831.

ART. VII. *Topographical Remarks on the Climate, Soil, &c. of the middle section of Alabama, more especially in Relation to the County of Dallas.* By J. W. HEUSTIS, M. D. of Cahaba.

CAHABA, the chief town of Dallas county, is situated in about $32^{\circ} 20'$ of north latitude. The Alabama river runs through the county, dividing it from north to south. The Cahaba river also passes partially through it, mingling its waters with those of the Alabama, at

this place. There are besides, several creeks of considerable size, the principal of which, are Bogue, Chito, and Cholatche; the former is nearly one hundred miles in length, by the way of its meanderings, the latter is much smaller, and forms the southern and western boundary of the county.

This is a lime stone county, and particularly so in the vicinity of the prairies, of which there are some of very considerable extent in this and the adjacent counties: in many places it is moderately broken and undulating; never, however, rising into lofty hills, but abounding in precipices and caverns. The substratum is composed of mountain, or transition lime stone, softened, in most instances, by a considerable admixture of clay, and in others indurated by the presence of silica; the former, or soft lime stone, is by far the most common. About sixty miles above this place, the country becomes very broken and hilly, the lime stone assuming more of the primary character, and is mixed with a considerable proportion of sand stone; in every place the latter mostly prevails. This is considered as the latitude of the golden region, and discoveries authorizing this character have lately been made. A silver mine is also said to have been discovered upon the Cahaba river, about seventy-five miles above this place: the disclosure was made by an old man, who had been employed to work in the mine by the Spaniards, more than fifty years ago. Iron ore is here also common; beds of coal may be seen in the banks of the Alabama, at low stages of the water, embedded beneath a deep stratum of lime stone. This section of country is of alluvial formation. Jasper and pebbles of various descriptions and sizes are found in great abundance upon sandy and gravelly ridges, and in the banks and beds of the rivers and smaller streams. Too little attention, however, as yet has been paid to the subject in this state, to ascertain the extent and value of its mineralogical treasures. The rivers and creeks have generally one of their banks composed of lime stone, and the other of more recent alluvial deposite.

There is in this county a very considerable proportion of fertile land, confined principally to the rivers, creeks, and prairies: the upland in other situations is generally thin and sandy, yet when of moderate fertility, it is often preferred on account of the purity of the water, and healthfulness of situation, to the less salubrious though more productive lands near the rivers. Perhaps there is no country possessing a greater variety of soil, and in which sudden changes take place more frequently from fertile to poor, and *vice versa*; or in common parlance, where the land is more spotted: not unfrequently a space or strip of a few yards constituting the boundary between lands

of very poor and of very rich quality. It would seem, that with the exception of the more recently formed rich river lands, this great and sudden variation in the soil is owing, in a considerable degree, to the depth or proximity of the subjacent lime stone to the surface. There can be little doubt that this lime stone possesses the property of great fertility. Thus, when the *bald prairies*, so called from being destitute of trees, and covered only with grass and herbage, when these have been cultivated and broken up deep, with a strong plough and team, by which the lime stone becomes pulverized, and converted into mould; these places, which before were barren and unproductive, are converted into soil of great fertility. In this way, also, we may probably explain the richness and depth of soil along the skirts and margins, and in the bottoms or hollows lying in the vicinity of the lime stone, or bald prairies, prominences, and hills; the wear, attrition, and decay of ages absorbing the lighter parts and portions of this calcareous animal deposit, which, mixing with the remains of extinct and decaying vegetation, lodges upon the sloping declivities, and in the vallies, forming beds and strata of great depth, fertility, and duration. The land not only of this county, but also of most others in the state, may be divided into six natural varieties, or classes. First, the side river bottoms, or swamps as they are called, subject to inundations. Second, the more elevated river lands of inferior quality, and not subject to overflow. Third, hommock, or second river and creek bottom, or low grounds of a loose black, sandy soil, fertile, and above inundation. Fourth, first quality of upland, of intermediate fertility between the hommock and second quality of upland. Fifth, second quality of upland, consisting principally of piney woods, interspersed with a few oaks, hickories, &c. Sixth, prairie. The extent of the first division, or river bottom, is extremely various and irregular, being sometimes a mere border, of not more than forty or fifty yards in width, and in others extending from one to two miles from the river; and, in other situations again, the second quality of upland or piney woods, reaches to the very river, forming high and precipitous bluffs. Generally, where one bank of the river or creek is formed in this manner, the opposite one is low, with a greater or less extent of rich river or creek bottom. Before, and at the first settlement of this country by the present white population, the rich river lands were covered with thick gigantic cane, this, since that time has, in many places, been entirely destroyed by accidental fires, and by cattle, which are extremely fond of it, especially when young and succulent, at which time they eagerly devour the whole plant. Thus, when the old cane dies, as it does sponta-

neously in a few years, after going to seed, as none of younger growth has been left to succeed, the crop is entirely destroyed. There is, however, in this state, a considerable proportion of cane land, remote from the rivers and creeks. It is scarcely necessary to say, that land of this description is of the first quality. Where the growth of cane is not situated on the rivers and creeks, or, in other words, where the soil which produces it is not *made land*, the result of alluvion and inundation, it is of prairie or lime stone quality. There is a considerable extent of country of this description, commencing about twenty-five miles from this place, lying principally in the county of Maringo, cornering also in Dallas, Perry, and Green. The soil here is a rich vegetable mould, several feet in depth; but like the prairie country generally, it is badly watered. For a distance of thirty or forty miles, in one direction, the traveller finds not a single running stream; and if, by chance, he discovers a little water in a stagnant pool, he "blesses his stars, and thinks it luxury." Besides, in the winter and spring, the roads, as might be supposed, are muddy in the extreme. Notwithstanding these disadvantages, the extreme fertility of the soil in the *Big Cane Brake*, as it is called, causes it to be fast filling up with a wealthy and industrious population. Those in better circumstances have bored through the subjacent lime stone, and found tolerably good water, at the depth of between two and three hundred feet.* Others dig about in sink holes, and collect and use the water that drips and filters through the soil, and is arrested by the rock, forming stagnant pools, which, though warm, brackish, and sulphury to the taste, rarely or never putrefies. Others again, have cisterns, or large excavations, which hold the water collected from the rains. From the scarcity of water, it is a bad country for cattle, which often perish from the want of this necessary element. There is, besides, much fertile land in the prairies themselves, which, however, though in a less degree, are subject to the same inconvenience and objection, scarcity of water, and that of a bad quality. During the dry weather of summer, cattle, hogs, &c. suffer much from the cause above mentioned, and as the pools dry up, a stiff mud occupies their places, in which those animals, in their search for water, often sink, and being held fast by the legs, soon perish, unless discovered and extricated in time. There is one thing of a singular character observed among the cattle of the prairies, which is the deposition of black or dark grey matter in the omentum.

* In the prairie lying in Montgomery county, I have been told one man has bored and found good water at the depth of five hundred feet, the water rising within seventy feet of the surface, to which depth he has sunk his well.

mesentery, and in the peritoneal covering of the stomach and intestines: this is frequently found in patches as large as one's hand, and appears to consist of mud or lime stone; having become redundant in the system from the quantity of impure and muddy water which these animals are obliged to make use of. It is probable that this may be one cause of the murrain, to which they are very subject, and of which they die off in great numbers, with blood issuing from every orifice in the body. The disease, for the most part, is extremely painful and short, destroying life in a very few hours.

There is in this country a vegetable growth, of which cattle are very fond, but which, I believe, has never yet been satisfactorily ascertained, which communicates a most disagreeable taste and odour, (bearing some affinity to that of onions,) to every part of the body. The breath of cattle which have fed upon it is particularly noisome and disgusting. The taste, in a few hours, is communicated to the milk of cows, rendering it extremely unpleasant and unfit for use, unless among persons of obtuse and unrefined sense of taste, or to whom the long habit of using it may have overcome the natural disgust of a first acquaintance. This vegetable, called *the weed*, does not appear to impart any poisonous quality to the milk or flesh of animals feeding upon it, as no injury has ever been known to result from their use. The milk of cows that have fed upon this weed, even communicates its odour to the breath of persons who have taken it freely. The flesh of animals is thereby still more strongly impregnated than their milk, and its taste is so extremely unpleasant that no person can endure it. In cows that are kept up, the taste disappears in a day or two from the milk, but a longer time is required for its removal from the flesh. It is probable that the sensible qualities of this plant undergoes a very material change under the concocting operation of the digestive organs, so as to elaborate a taste and odour not discoverable in the fresh and growing weed; otherwise it would have been impossible for it to have remained so long a matter of doubt and uncertainty.

A great proportion of the houses in this section of the state are built of logs, as being of more convenient and expeditious construction. In the towns, however, of any considerable standing, framed buildings have in most instances taken the place of the more rudely constructed log cabins. As might be expected in a new country, where the immediate necessities are of primary consideration, but little attention is generally paid to the more refined comforts and elegancies of life. Gardening of every description is very much neglected, except among the more wealthy; and though the heat of our

summers is unfavourable to horticulture, yet by taking proper advantage of the winter and spring, vegetables of almost all the ordinary varieties may be cultivated and reared with very considerable success. No climate is perhaps better adapted to the growth of the egg-plant and tomatoe, (*Solanum melongena* and *Solanum lycopersicon*.) To the Irish potatoe, as it is improperly called, (*Solanum tuberosum*,) the country is less congenial, though by planting it early in the month of February, it is much relied upon as an early garden vegetable; it is generally thought, however, that the seed degenerates in the course of two or three years, and requires the substitution of that which is fresh from the northern states; as far as my own observation extends, I am by no means warranted in the support of this opinion. having almost invariably obtained better potatoes from seed of my own raising; and it is a well known fact that the potatoes imported from Ireland, as they often are, are in this climate entirely unproductive, yielding vines or tops in abundance, but no tubers. The sweet potatoe, (*Convolvulus batatas*,) in all its known varieties, luxuriates here in the greatest abundance, and is to the inhabitants of the southern states, what the *Solanum tuberosum* is to those of the northern. Melons of all kinds succeed to admiration, and are much used by the inhabitants; with many, however, as well physicians as others, there is a strong, though I am satisfied an unjust prejudice against them. Does it appear reasonable, I would ask, that a fruit so grateful to the taste, so cooling to the body, and at the same time, that operates so freely and mildly upon the various emunctories of the system as the water-melon, should with all these alluring temptations and specious properties, contain a secret poison? The notion is absurd, and would convert a blessing, designed by our beneficent Creator for our comfort, into a baneful and forbidden fruit. The same observations apply to all the ordinary fruits of the season; and there can be no doubt that they are all alike intended by a kind Providence for our health, comfort, and enjoyment. Throughout the universe, as far at least as our limited observation can extend, we find that the God of nature has wisely adapted the various means and objects of creation to their appropriate design. Nothing is fortuitous, accidental, or improvident. Every animal is adapted and formed to its particular sphere of life and mode of existence. Where reason fails, instinct supplies its place, and directs the inferior creation with almost unerring certainty to the gratification of their natural wants and desires. But to man was given a wider range and a more extended field of enjoyment. The intellectual world opens its resources to the pursuit and gratification of his more noble faculties;

whilst the wide-spread earth, with its diversified objects of the animal and vegetable worlds, are presented in ample profusion for his corporeal gratification. And when panting under the oppressive influence of a vertical sun, can any thing be better adapted to quench the thirst and allay the feverish heat of the body, than the cooling acidulous fruits of the season—the orange, the lime, the lemon, the pine apple, the grape, the peach, &c. &c.? These are the antidotes which nature has kindly provided for our health and well-being against the influence of heat and malaria, and is it not the height of folly and absurdity to suppose, that like the forbidden fruit of paradise, they contain the poisonous properties of misery and death? But deferring this subject to another occasion, I return from my digression.

The peach, (*Amygdalus persica*,) arrives in this climate to great perfection, and bears fruit in the greatest abundance. Of the plum, there are a considerable number of native varieties, which are good bearers, though the fruit, for the most part, is rather watery and insipid; to the exotic varieties the climate is unfavourable. The fig succeeds but indifferently, though it is much benefited by being placed near the shelter and protection of a wall or building, so as to shield it from the severity of the early frosts, which are apt to injure and kill the succulent branches, whilst the sap is in the full tide of circulation in the fall. The country is rather unfavourable to the apple and the pear, the first being often a good bearer, but generally of slow, difficult, and uncertain growth; the bark being much infested with insects, producing ugly and hurtful excrescences. To this disease the quince is especially liable. I have never seen a pear in the state, though I have been told there are some of good quality in the neighbourhood of St. Stephens. The apricot flourishes finely, but as far as my observation extends, is unfruitful. The cherry, except the wild, is here generally of slow and sickly growth. The currant, as well as the gooseberry, for the most part, wither and die the first year, or if they survive, as they sometimes do, when well protected by the shade of a building, they are still languishing and unproductive. But few experiments have as yet been made with the grape, and it appears that the high expectation held out by the French settlement near Demopolis, so liberally patronized by government, has ended in total failure. This perhaps may be ascribed in a great degree to the quality of the soil, which is of the prairie character, and as such is found to be very unfavourable to the vine. The native grape is mostly of a small, black, dry, acerb, and inferior quality. There is every reason to believe, however, that with proper skill and care in the cultivation, many excellent varie-

ties of exotic grapes might here be made not only a great source of healthful luxury, but also of individual profit. Time must test the practicability of naturalizing the olive; and although the probability is that the mean temperature of this section of country is greatly superior to that of the south of France, yet the sudden and sharp frosts in November, or the latter part of October, often gives such an immediate check to vegetation, as to prove prejudicial and dangerous to the more delicate and less hardy trees and shrubs. Were it not for this irregularity, the orange would doubtless flourish and bear fruit: thus I have known it to resist the ordinary frosts of three or four successive winters, and to be cut down in the fourth or fifth. This tree, however, is cultivated with some success in the city and vicinity of Mobile. Grain of all the ordinary varieties generally succeeds well, with the exception of wheat, which if too late is injured or ruined by the rust, from the hot weather in the latter part of May, or if too early, is destroyed by the frost in February or March, and even sometimes in the month of April. Thus the severest weather in 1828, happened on the fifth, sixth, and seventh of April. The ground for three successive nights was hard frozen; the Indian corn that had been up and growing, was bitten to the root, and required to be replanted; the wheat was almost every where cut off, fruit was destroyed in the germ, and many trees in the forest were killed. Wheat is, therefore, rather an uncertain crop, though still cultivated by many farmers in sufficient quantity for their own use, and not unfrequently to dispose of. In seasonable years the grain is remarkably large and heavy.

Of trees, the *Melia azederach*, (Pride of China,) is much esteemed by some, on account of the rich and polished verdure of its leaves, the density of its shade, and the rapidity of its growth. The whole tree possesses highly anthelmintic properties, these virtues residing more especially in the root. Caution, however, is required in its exhibition, as in too great quantities it is highly poisonous, affecting more especially the head and eyes, sometimes causing total blindness. The forest trees consist on the upland principally of oak, pine, chestnut, hickory, dogwood; in addition to which, near the rivers and creeks, and on land of first and second quality, we may mention the liquidambers, nyssa, *platanus occidentalis*, several species of elm, ash, sugar maple, flowering maple, beech, holly, honey locust, black walnut, cedar, sassafras, red bay, large laurel, or magnolia, several inferior varieties of bay, white poplar, mulberry, tupelo, cotton wood, linden or bass wood, &c. &c.

At the first settlement, this country was much infested with bears

and wolves, which were very destructive to the herds and flocks of swine and sheep, more particularly about the rivers, and in the neighbourhood of thick woods, swamps, and cane-brakes; but as the country fills up with a denser population, these wild beasts are gradually destroyed and disappear. The bear tribe, however, though much diminished, is still troublesome in many places, breaking into plantations at night, and committing great ravages upon the Indian corn, of which, in its green or milky state, this animal, epicure as he is, is extremely fond. Deer are still numerous, as are also wild turkeys, and formed a great portion of the subsistence of the first settlers. These animals and fowls are much hunted, more particularly the former, by persons fond of the chase, as those of the south generally are.

There is a species of locust which sometimes abounds here in immense quantities. In shape it resembles the common locust, differing in colour, which is of a reddish cast. Its noise resembles the croaking of a frog. They are said to make their appearance in seven years. Last year the country swarmed with them. They appear to live by suction. They are furnished by a strong sharp bill or proboscis, with which they perforate the leaves and tender twigs and extract the juice. They are but of short duration, and previously to their disappearance, they deposit their eggs in the centre of young and succulent shoots, which they perforate for the purpose with a strong, horny, and pointed tail with which they are furnished. These eggs in a few weeks hatch out, and form small white worms, which immediately descend into the earth, and there remain, till the animal acquires maturity and becomes a creeping chrysalis, when it again perforates the ground in its ascent, and attaching itself by its claws to the nearest tree or plant, bursts its investing shell upon the back, and becomes a winged insect of the air and groves.

Rattlesnakes have much diminished of late years; they are still, however, tolerably numerous, and almost every family takes precaution against them, by having a vial of liquid ammonia in the house; this is given as soon as possible after the bite, in the quantity of a tea-spoonful, in water, every ten or fifteen minutes until relief is obtained. Given in this way, and applied to the part, it is said to be an effectual and sovereign remedy. Deaths, however, sometimes occur very suddenly from the bite of this venomous reptile, though none have fallen under my own observation. A fatal case occurred a few miles from this place a few weeks since, in a lad about twelve years of age. The bite was inflicted on the ankle; the limb was corded below the knee, but in a few hours swelled so prodigiously that the ligature was removed, and applied above the knee, still the swel-

ling increased, the leg below the knee turned black, cracked open, and became gangrenous; the mortification at length attacked the thigh, and extending to the body, destroyed life the fifth day. Such was the intensity of suffering and pain, that aberration of intellect or delirium soon came on after the injury, and continued with little interruption to the fatal close. After death the body swelled immensely, turned livid, and the dissolved blood exuded through the pores of the skin. A variety of popular remedies were tried, though without the advice of a physician. The above history I gathered from the parents after the death of their son.

Of the serpent order there are a great variety, though but few are poisonous. There is a rare species, about six feet in length, a specimen of which I forwarded a few years since to Dr. MITCHELL, of New York, who considered it a species of the boa, though it had not hitherto been described by any naturalist. Considering the number of venomous reptiles and insects in this country, it is rather surprising that accidents and injuries from them do not happen more frequently. There is an insect peculiar to warm climates, which, according to its size, is represented as being very venomous. This is the large, solitary, red ant. It is from an inch to an inch and a quarter in length, with a body larger and longer than that of the honey-bee, but more round and more elegant in its form, of great strength and activity, and protected with a very hard and apparently crustaceous covering; it is clothed with a short velvet down, and has two black spots, one on the body or thorax, and another on the tail or abdomen superiorly; its sting is about a quarter of an inch in length. Ticks and red bugs are also very numerous and troublesome; the latter are scarcely discernible to the naked eye, appearing like very minute red points; they fasten themselves in the skin, create a burning sensation, and a very severe itching, and in children and young people, unless removed in time, giving rise to painful and tedious ulcerations. They are different from the chiego of the West Indies and Florida, which burrows and breeds in the thickened cuticle of the feet of the negroes, and beneath the nails, producing a bag or cyst, like a hydatid, and sometimes working their way entirely through the joint, so as to cause the toes to come off. The red bug, on the contrary, remains solitary, and does not generate in the skin; they abound in the woods, and about old decaying timber. Mosquitoes are not generally numerous, unless in certain wet or marshy situations, or after great rains. They always require stagnant water for their production, and as regards locality and health of situation, may therefore be looked upon as an unfavourable omen.

The white population of this section of country, as well indeed as of other portions of the state, consists principally of emigrants from North and South Carolina and Georgia. The next most numerous portion are Tennesseans, then follow the Virginians, New Englanders, and others, from every state and section of the Union. To these may be added not a few Scotch, Irish, Dutch, French, Swiss, &c. Such diversified materials compose the population of most new countries, which amalgamating by intermarriages, in the course of one or two generations becomes more assimilated and national in its character. It is now the land of their adoption—it will then be the land of their birth: old and cherished prejudices, and fond recollections and regrets of dissevered kindred and friends and native country will die away with the present stock, and new feelings and associations of indigenous growth spring up with the rising generation.

In a land possessing so many natural advantages, it was readily to be supposed that the wealth of the country must be rapidly increasing. The extensive range of the grass and cane of the woods, swamps, and prairies, and the mildness of the winters, renders any provision, except a little salt, unnecessary for the cattle, which are consequently cheap and plenty. All the comforts of life are raised in the greatest abundance, besides a vast amount of surplus staple for exportation. The returns made to the planter, after paying off his store account contracted during the year for groceries, and sundry articles of luxury or convenience, is laid out in the purchase of land or negroes, and thus the numerical force and riches of the country goes on increasing in geometrical progression from year to year. To this rule there are certainly exceptions, both among merchants and farmers, who, by imprudence and mismanagement, sometimes come to poverty and ruin. Instances of this kind appear to occur more frequently among the farming part of the community than others; and the reason is obvious; for as agricultural labour is here principally performed by slaves, with the exception of the poorer class, under the conduct of an overseer, the proprietor has much leisure upon his hands, which is often spent in hunting, drinking, and convivial associations. Those hours which by a northern man are generally devoted to intellectual or corporeal labour and application, are here, by the idle and more wealthy, frequently spent in recreation, sport, and too often hurtful and demoralizing dissipation. Much time in this manner runs to waste, which might and should be husbanded to accounts, in the acquisition of useful information, and in building up a character of improved talents, and scientific and literary accomplishments. The militia musters throughout the state

are, almost always, attended with much disorder, drunkenness, and fighting. At such times and places, persons holding grudges and old animosities against each other, often suffer their passions to rise with the warming, exhilarating and courage-stirring influence of spirituous potations; fights ensue, and sometimes death is the consequence. There is certainly a vast amount of drunkenness in this state; and although the principles of the temperance society have had some influence in arresting the extent of the wide-spread havoc, yet the resorts of dissipation, the bar-room, groeery, and tippling shops still attest the extreme and alarming prevalence of intemperance. The retailer of spirituous liquor has probably a greater amount of crime and responsibility to answer for than any other person in society. Laws are passed for the punishment of overt acts of personal violence, assaults and outrage, and yet the most efficient cause of all this mischief, the man who scatters abroad "fire brands, arrows, and death," is tolerated and protected in society, and even looked upon, or rather overlooked as innocent.

It is scarcely necessary to say, that cotton is here the staple article of growth and exportation. Many of the farmers, however, of the middle and southern sections of the state, are now turning their attention to the sugar-cane; and from the small trials that have been made, with every prospect of success.

There is here a long continuance of hot weather, which generally commences with considerable intensity about the 10th or 15th of May, and lasts until about the middle of September. Thus we have four months of hot summer weather. From the middle of September to the middle of November, the temperature is mild and pleasant, the nights cool, and the days comfortable. The same may be said of the period embraced between the 15th of March, and the 15th of May. Thus, in relation to the general temperature, we may divide the year into three equal parts; viz. the cold, the temperate, and the hot seasons; the temperate season being nearly equally divided by the intervention of summer or winter. The cold of winter is seldom severe or long-continued, and from the great proportion of warm and temperate weather, the country is remarkably exempt from pulmonary consumptions; this disease scarcely ever appearing except in persons strongly predisposed by hereditary conformation. I have known several persons affected with catarrhal phthisis, from neglected and improperly treated pneumonic affections, who have finally recovered a comfortable share of health after a protracted illness. Persons affected with phthisis pulmonalis, or a great predisposition to that complaint, experience very decided benefit from a

residence in this climate. Comparatively very few deaths take place from this disorder, probably not more than one in two hundred of all the fatal cases from every disease. The salutary influence of this climate in phthisical invalids, I am persuaded, requires only to be known to be taken advantage of, and duly appreciated. In the year 1815, I embarked from New Orleans for New York; among the passengers was a delicate young gentleman, who had resorted to the climate of Louisiana for his health: his chest was small and compressed, and evidently of the phthisical conformation. Yet he appeared, at this time, to enjoy a very tolerable and comfortable share of health. It was now the month of April, and as we lay in the Mississippi waiting for a favourable wind, the weather was extremely warm, and we were much annoyed with mosquitoes: yet there was no sickness among us; and even our phthisical invalid was hearty and cheerful, enjoying the comforts of the table, and participating in the pleasures of the social circle. He had no cough, wheezing, or apparent difficulty of breathing. After a safe and pleasant passage, we arrived at New York on the 8th of May. As we approached the harbour, the land air around us felt damp, chilly, and uncomfortable. This was more particularly experienced by our consumptive companion. As we were detained a day or two by quarantine, he grew sensibly worse. Upon landing, and walking only a few hundred yards, he found himself quite out of breath, exhausted and overcome. We parted, and I looked upon his fate as speedy and certain. He should, certainly, at the expense of all reasonable pecuniary sacrifices, have taken up his residence in a country which he had found so congenial to his health; at least until his system and pulmonary organs had become invigorated, and the fatal predisposition had been replaced by a sound and healthy constitution. Had the lamented Dr. GODMAN also pursued this course, many years, in all probability, would have been added to his valuable life; and medical science, and the cause of humanity would still have been benefited by his talents, and his labours.

Although, as previously stated, the winters are not generally long, or very cold, yet I have, at sundry times, known the weather quite severe for several days successively. Thus, on the 6th and 8th of February, 1824, the mercury in Fahrenheit's thermometer, at sun rise, stood at 8° degrees above zero. Water standing in tubs and buckets, was frozen solid, and the earth for the first and only time since I have been in the state, which is now ten years, was covered with snow for nearly two days. This severity of weather extended throughout the southern section of the union, killing the fig and

orange trees to the ground. On several days since then, I have seen the mercury as low as 15° or 16° ; such instances however are rare.

During the summer the prevailing wind is westwardly, varying from the south-west to the north-west. After a general rain the weather often clears off with a strong or fresh wind from the north-west. Rain-bearing clouds come from any point southwardly from the south-east to the south-west. From the east northwardly to the north-west, and so on to the west-south-west, the winds are dry, unless there has previously been a prevalence of southwardly winds, when showers sometimes spring up from the north, by a sudden condensation of vapours which are driven back to the south. The wind in winter frequently sets for several days together, from the north-east; the air is then damp, chilly, and disagreeable, and the sky dappled and overcast with fleecy clouds, the weather being such as in the Atlantic and eastern states would indicate snow or sleet; but before the clouds arrive here their humidity has been precipitated, so that we perceive only the rack of the Atlantic storms. In winter the winds are extremely variable, after a rain blowing keen and cold for a day or two from the north-west; then veering to the south, and bringing us the atmosphere of the tropics, cooled and tempered in some degree by admixture with that of more northern latitudes. It is scarcely necessary to say that these changes of the wind from north to south, and the contrary, are productive of great and sudden changes in the temperature of the weather, which from a degree mild and pleasant, often sinks to the freezing point in the course of twenty-four hours. As our cold weather comes principally from the north, being scarcely indigenous to the climate, it is obvious that a prevalence of winds from any point north of west or east must produce a diminution of temperature. This is more especially the case with winds from the north-west, since they come from a bleak frozen country, clothed with forests and covered with snow, or from inland seas, shaded and bound up in semi-perpetual ice.

Droughts of several weeks duration are very liable to happen in the summer months. Thus, during the hot weather of 1826, there was an extensive drought, in many places of the middle and southern portions of the state being of nine or ten weeks duration, only very few places being visited by light and partial showers. The same kind of weather, I believe extended throughout the greater portion of the southern states. In many places the Indian corn was totally burnt up and killed to the very top. June is generally dry, literally verifying the old Saxon appellation of *sero monah*, dry month. At this time, July 3d, there has been a long spell of dry weather, and the

crops were fast withering and dying. A fine rain, however, yesterday, from the south-west, came in seasonable time to arrest the work of destruction, and revive the drooping spirits of the farmers. The month of April last was almost unprecedented for dryness, but one or two small showers having fallen during the whole month. The summers of 1822 and 1823, on the contrary, were unusually wet, more especially the latter, the earth during the months of July and August being drenched and inundated with floods of rain. On the 22d of April, 1822, there occurred the highest fresh ever known since the settlement of the country by the whites: the town of Cahaba was laid almost entirely under water, in some places to the depth of six or eight feet. Of late years the rain has been much less abundant, and there has, in the mean time, been a very considerable improvement in the health of the country: whether this has been owing to any change in the state of the atmosphere, or to any obvious alteration of the weather, or to the acclimation or seasoning of the inhabitants, or to all these causes, is not for us to determine with absolute certainty. Much, however, I think may be ascribed to the latter of the above circumstances; for it is now found, that although the old and acclimated residents enjoy almost uninterrupted health, with nearly complete exemption from bilious fevers, yet whenever a stranger arrives from the eastern or northern states, or even from Tennessee or Kentucky, they are pretty certain to experience an attack of the endemic fever under a character of greater or less severity, and which sometimes, under improper treatment, terminates fatally.

The Alabama river is at this time, September 8th, lower than I have ever known it, being fordable in many places. Many springs of water, which before have never been known to fail, are now quite dry. August has been uniformly hot, with the exception of the nights, which towards the latter end of the month would become cool and comfortable before day: during the hottest part of the twenty-four hours, the mercury of Fahrenheit, in a cool and ventilated apartment, has stood above 100°, and for several days in succession has exceeded 90°. I perceive from the journals that the heat in the northern states has been more than usually intense this season, many persons having perished from the heat, and from the imprudent use of cold water while in a fatigued and heated state. As the temperature of well water must be nearly the mean temperature of the climate, it may readily be supposed that the water here is never sufficiently cold to be productive of any serious consequences; accordingly, I have never known any accident to arise from this cause.

It is probable that the dispersion of humidity, and the diminution -
No. XV.—May, 1831.

in the quantity of rain may have had considerable influence in rendering the country more healthy, and more exempt from the endemic fevers of summer and autumn. The settlement and first cultivation of new countries is generally extremely prejudicial to the health of the lately-arrived inhabitants: the vegetable matter that had been accumulating for ages, undergoing a great and sudden decomposition, infects the air with noisome exhalations, from the inability of the recent vegetable growth to appropriate to its increase and support the excessive supply and redundancy of putrefactive products.

For the last few years more injury has been sustained from a deficiency than from too great a quantity of rain. What connexion this may have with an increased and greater uniformity of temperature during the summer season, I am unable to say, though it would appear that as we approach the more uniformly heated and equatorial latitudes, rain becomes less frequent and considerable, except in hilly and mountainous districts of country, where elevation counteracts the natural influence of approximation to the equator.

It would seem, that as the country becomes settled, cultivated, and improved, and the forests proportionably diminished by the labour of agricultural industry, the atmosphere is rendered less humid, the vapours and exhalations are more suddenly dissipated, and the aggregate quantity of rain is lessened. To illustrate this fact in a scientific and satisfactory manner, it would be necessary to compare the quantity of rain that had fallen during the first four or five years after the first settlement of the country, with that of a like duration immediately preceeding the present time; but as we possess no such data, we can only judge from obvious circumstances, among which we may mention the annual state, rise, and degree of inundation of our rivers. It is well known that our freshes have become of late years much less frequent and considerable. This may, perhaps, be partially ascribed to the more rapid evaporation of humidity after rains, in consequence of the earth being more freely exposed to the action and influence of the solar rays from the operation of clearing. The rains of winter seldom fall in sufficient abundance to raise the rivers until the month of December, so that it is often not before Christmas that the steam-boats commence running. January, February, March, and April, are generally rainy months, though this year the latter month was extremely dry.

It has been observed, that in very dry summers, the showers for the most part follow the direction of the rivers and larger creeks, so that whilst the land adjacent to the water-courses is in many instances drenched with rain, the upland and other places out of the main di-

rection of the streams are parched with drought. Whether this is to be explained by the mutual attraction subsisting between the more cool and humid atmosphere of such situations, as caused by local exhalation, and the rain-bearing clouds, or by the state of electricity as influenced by such exhalation, I am unable to say, but that an attraction of some kind actually exists, would appear to be satisfactorily proved by the circumstances above stated.

At present, September 9th, a very extensive drought prevails throughout every portion of the southern and western states, as far as heard from, viz. Ohio, Kentucky, Tennessee, Arkansas, North and South Carolinas, Georgia, Mississippi, Louisiana, and Alabama. In Georgia it has been particularly severe, the crops having been cut short more than one-half. The same is also the case with many parts of this state remote from the water-courses. Other situations have been more favoured; but it is now more than a month since the ground here has been wet with rain, and in other parts of the country there have fallen but one or two showers in the course of three months; vegetation of all kinds is fast drying up, the fruit upon the trees is shrunk and shrivelled, and the leaves dying and falling prematurely; many trees of the forest, especially in sandy soil, are actually dead: in short, to use a figure of sacred writ, "the earth is turned into iron, and the heavens into brass."

Since writing the preceding, the country has been favoured with partial showers; though the ground is so excessively dry, that a week's rain would scarcely penetrate to the moist earth.

This country is very subject to high winds and turnadoes, which are generally accompanied with rain, rendering them more dangerous and destructive. At sundry times within the last year, this vicinity has been thus visited, to the great inconvenience and damage of the farmer, whose plantation thereby is often strewed and covered with dead trees, his crop in a greater or less degree destroyed, his fences blown down, horses and cattle killed, or perhaps his houses and cribs razed to the ground, and the whole fruits of his year's labour scattered before the wind. Such instances of overwhelming destruction are not very frequent; though one occurred last November, in a tornado which passed about twenty miles below this place: it was from a hundred and fifty yards to a quarter of a mile wide, and of uncertain extent, perhaps four or five miles long; diminishing gradually in severity as it progressed. Before it trees were as stubble, and houses and their contents as chaff. Owing, however, to its limited extent, and the sparse population, no human lives were lost. Hail storms, accompanied with much thunder and lightning, fre-

quently happen in the months of March, April, May, and June. One occurred in Tuscaloosa in the latter part of March, 1829, which ruined all the gardens, and destroyed every leaf of vegetation; leaving the hail in many places, as it drifted, several feet in depth, a barrel of which, as a curiosity, was put on board a steam boat and taken to Mobile. On several occasions, in the spring of the year, I have seen the trees of the forest entirely stripped of their leaves by the hail, and the earth covered several inches in depth with the offensive putrefying foliage. A storm of this kind occurred in the vicinity of this place, during an extensive shower on the 2d of July: the hail left upon the ground was three or four inches in depth, and was to be seen the next day. It was principally limited to three or four plantations.

Generally, the hottest weather occurs in June, though the months of July and August are very sultry and oppressive. During the three summer months the system is much relaxed and debilitated. This effect of the weather is here, as in more northern climates, more remarkably exemplified among children and teething infants, who are at this period very liable to *cholera infantum*, and chronic diarrhoea, or as they are usually termed, *bowel complaints*. These, though often obstinate, are not generally, or even often, fatal: as out of a number of cases this season, I have not lost a single one from this disorder; and frequently having to prescribe under the disadvantage of not seeing the patient. This affection is frequently complicated with worms, for which as well as to answer the purpose of an alterative, I prescribe calomel in small doses, say, one, two, or three grains every night, for two or three nights in succession; and three or four grains of Dover's powder, repeated every night at bed time; a dose of castor oil once or twice a week; sometimes substituting, as a mild purgative, with the best effects, rhubarb and magnesia. Should there be any tenesmus, or dysenteric symptoms, exhibiting at night, after the operation of the purgative, an anodyne enema, consisting of starch, warm water, and eight, ten, or twelve drops of laudanum to children a year or two old. As an anthelmintic I prescribe, almost indifferently, oil of wormseed, (*Artemesia satonica*.) *Spigelia*, or a decoction of the bark of the *Melia azederach*; the two latter require to be exhibited with caution, as I have known the sight sometimes impaired by them, and even complete amaurosis result from the free use of the decoction. Of the decoction or infusion, made moderately strong, I direct a wine glassful to be taken twice a-day, for two days, then omitting its use a day or two, and again resuming it should it be necessary.

Sudden changes in the weather, during the summer, from hot to cool, are unfavourable to health; giving rise to various degrees of what are called *colds*, and in children, an affection of the mucous membrane of the bowels, showing itself in cholera, diarrhœa, and dysentery. Adult invalids, and persons convalescent from preceding sickness, are also affected by these complaints. This is more especially the case, at the approach of the cool weather of autumn; those who have suffered attacks of bilious fever being then especially liable to relapses, under the form of ague and fever, or as it is commonly called, *chill and fever*. In proportion as the inhabitants have become acclimated, disease has greatly subsided; inasmuch that the probability is, that at this time, there are few more healthy states in the Union. The so much dreaded yellow fever of our sea-ports, now that its character and treatment are better understood, ceases to inspire terror; nor is the interior of our state now visited with the bilious fever, except in a few detached points of peculiarly unhealthy location, or in a few sporadic instances of unacclimated subjects,* and even in those it is rarely obstinate or dangerous, except from improper treatment.

For the three first years after my arrival in this state, in 1821, 1822, and 1823, the country was dreadfully sickly, and the mortality great and appalling, more especially near the rivers. The whole country was then new, and the warmth and humidity of the seasons caused a great and rapid decomposition in the recently exposed and turned up vegetable matters. Many flourishing towns upon the

* During the present summer, August 11th, I was called to visit some patients at Canton, a small town on the Alabama, twenty-five miles below this place. There were there a number of aggravated cases of bilious fever, some two or three of which terminated fatally; yet almost every other part of the country has proved quite healthy, at least as far as the fever has been concerned. The local aspect of the above-mentioned place, at the first glance, would appear healthy, being very high, and the soil sandy. Contrary to the observations of some physicians, I have generally found, that towns and settlements upon sandy soil, were more subject to bilious fever, than others where the surface was stiff and tenacious, from an over-proportion and admixture of clay. For this I can only account in this way, that the sandy soil becomes more heated, and, therefore, gives rise to a more copious extrication of miasmata. The town of Canton is situated on a very high bluff, but the place is much overrun with tall weeds, bushes, and shrubbery of various kinds, covering the earth with the litter of decaying leaves, and other vegetable matters, and retaining the water that falls in rains. It has, moreover, been found, that very high bluffs, in the immediate vicinity of low grounds, are more subject to disease than others that are less elevated.

rivers, which had risen up, as it were, by the hand of enchantment, received a sudden check, and became suddenly almost totally abandoned, from death and desertion. Strangers from every part of the United States, invited by the fertility of the soil, the beauty of the country, and the serenity of the climate, brought together by fortuitous association, with foreign and unseasoned constitutions, were suddenly swept off by thousands. In many families there were not well persons sufficient to attend upon the sick and dying. Never have I known a time of such general calamity. There was then no "tempering of the wind to the shorn lamb," but age and infancy were alike hurried to the grave; *Rachael* was not even spared to weep for her children, but fell an indiscriminate sacrifice before the destroying angel. From this severe visitation many places have not yet recovered: and as the population of the state since then has augmented threefold, we can form some notion of the vast natural advantages and inducements held out to emigrants, who, in such numbers, could brave all the terrors of a country that to many had proved so uncongenial and fatal. But these times are happily passed; and we can now look back upon this melancholy period of our history, like the shipwrecked mariner who stands upon the sunny shore, and contemplates with mingled emotions of joy, gratitude, and sorrow, the danger and destruction which he has escaped.

As there is a very considerable proportion of cool and variable weather during our winter months, the diseases of this season, though less numerous, resemble those of northern climates, being mostly of an inflammatory character; among which the most common are pleurisies and inflammations of the lungs. Ophthalmia and rheumatic affections are also frequent. But it is unnecessary to go into a particular enumeration and detail, as the diseases incidental to other climates, with certain limitations and exceptions, already hinted at, are also common here.

Cahaba, Alabama, 1831.

ART. VIII. *Medical Cases.* By J. FRANKLIN VAUGHAN, M. D.
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CASE I.—*Hepatic and splenic derangement, simulating organic disease of the heart or aneurism of the aorta.*—A married lady, who had generally enjoyed good health, and was the mother of several fine